8434 Disk Storage Subsystem

Sperry Univac introduces the new 8434 Disk Subsystem which can expand your on-line storage facility to 4.9 billion bytes for the 90/80 system or 1.7 billion words for 1100 systems in fixed record formats, and improve overall data processing capabilities.

The subsystem for the 1100 Series consists of the SPERRY UNIVAC 5046 Storage Control Unit and from 2 to 16 SPERRY UNIVAC 8434 and/or 8430 and/or 8433 Disk Storage Drives. A second optional group of up to 16 drives can be attached to the 5046 via the appropriate feature. The subsystem for the 90/80 consists of the SPERRY UNIVAC 5040 Storage Control Unit and from 2 to 8 SPERRY UNIVAC 8434 and/or 8430 and/or 8433 Disk Storage Drives. A second group of up to 8 drives can be attached to the 5040 Controller via the appropriate feature.

In addition to the 8430, 8433, 8434, each control can accommodate the 8405 Fixed Head Disk (FHD) via an optional feature.

With 8405 included, a maximum configuration with FHD is from 1 to 6 8405's and from 2 to 8 8434's and/or 8433's and/or 8430 drives using the 5040 control, and 1 to 8 8405 FHD'S and from 2 to 16 8434's, 8433's and/or 8430 drives using the 5046 control.

The 8434 disk drive contains a fixed disk stack consisting of 10 platters providing 19 recording surfaces. The twentieth surface is used for servo positioning information. When necessary, the disk stack is removable by servicing personnel. In the event of drive failure, the pack can be moved to another drive to facilitate data recovery. Each disk drive stores up to 307 million bytes or 54 million words in software supported formats.

A voice-coil electromagnetic actuator provides a fast average positioning time of 30 milliseconds. The 8434 provides the fastest data throughput of any SPERRY UNIVAC disk, i.e., 1.26 million bytes per second.

The 5046 Control Unit is a microprogrammable control unit designed for application flexibility. The control uses a diskette as a loading device.

The 5040 Control Unit is also a microprogrammed unit. Both the 5046 and 5040 Control Units offer Command Retry, reducing processor intervention requirements for error recovery in addition to in-lined diagnostic capability for more effective maintainability.

8434 disk drives provide a growth path for either 8430-99 or 8433 users.

Because of the state-of-the-art advancements made in recording density the 8434 can greatly reduce on-line storage cost for users who rarely ever change their disk packs. In addition, new and improved reliability will provide more uninterrupted processing time.

Working with 8430/8433 and 8405 FHD, the 8434 offers high flexibility, smooth performance and modular growth with the investment protection demanded in today's direct access facilities.

SPERRY UNIVAC

Released October, 1976

SPERRY UNIVAC
8434 Disk
Storage Subsystem

COLORS[1]

Standard Colors
Frame . . . . . slate gray
Front/rear . . . . . pale gray

Customer Color Selection[2]
End panels . . . . . dark green
slate gray
twilight blue
earth brown
grayish blue

[1]This is the color repertoire: Definition of these colors is given in Color Selection Brochure U5329, which your Sperry Univac representative has available.

[2]End panel color selections not available on all systems. Consult your Sperry Univac representative for details.

PHYSICAL DESCRIPTION

Drive 8434
Width: 22 in. (56 cm)
Height: 40 in. (102 cm)
Depth: 32 in. (81 cm)
Weight: 520 lb. (236 kg)

Control 5046
Width: 56 in. (142 cm)
Height: 64 in. (163 cm)
Depth: 31 in. (79 cm)
Weight: 750 lb. (341 kg)

Control 5040
Width: 41 in. (104 cm)
Height: 54 in. (137 cm)
Depth: 32 in. (81 cm)
Weight: 571 lb. (260 kg)

POWER REQUIREMENTS

Drive 8434
Voltages supplied from Control Unit Frequencies 60 Hz or 50 Hz

Nominal Load: 1.8 KVA

Controls

Nominal Voltages
200/208/230/240 VAC + 6% −15% @ 60 Hz ±2%
200/220/230/240 VAC + 6% −15% @ 50 Hz ± 2% DELTA
380/400/416 VAC + 6% −15% @ 50 Hz ±2% WYE

Maximum Load: 2 KVA

ENVIRONMENTAL REQUIREMENTS

Drive 8434
Shipping & Storage
Temperature 50°F. (10°C.) to 110°F. (43°C.)
Humidity 8% to 85% (with no condensation)

Working Range:
Temperature 50°F. (10°C.) to 94°F. (34°C.) (with max. drift 20°F./hr. (11° C./hr.)
Humidity 20% to 80% (with no condensation)
Heat Dissipation 5500 BTU (nominal) (5.80 MJ)

Control 5046

Shipping & Storage
Temperature −40°F. (−40°C.) to 144°F. (62°C.)
Humidity 1% to 95%

Working Range:
Temperature 50°F. (10°C.) to 93°F. (34°C.) with max. rate of change 20° F./hr. (11°C./hr.)
Humidity 20% to 85% (with no condensation)
Heat Dissipation 6300 BTU (6.65 MJ)

Control 5040

Shipping & Storage
Temperature −40°F. (−40°C.) to 140°F. (60°C.)
Humidity 5% to 95%

Working Range
Temperature 60°F. (16°C.) to 90°F. (32°C.) with max. rate of change 18°F./hr. (10°C./hr.)
Humidity 20% to 80% (with no condensation)
Heat Dissipation 6200 BTU (6.54 MJ)

FUNCTIONAL CHARACTERISTICS

Data Capacity Per Drive
Software Supported Prep Formats

(1100 Systems)
Prep formats of 28, 56, or 112 words per record
112 words per record (max.)
3,248 words per track
61,712 words per cylinder
54.183M words per drive

(90/80 System)
Prep format of 2048 bytes per record with 9 records per track is supported

2048 data bytes per record
18,432 data bytes per track
350,208 data bytes per cylinder
307.483 Mbytes of data per drive
75,069 virtual pages per drive (4096 bytes each)
337.026 Mbytes per pack (1 rec/track free format-bytes)

Transfer Rate
1260 KB per second

Data Heads
19 per drive

Tracks Per Drive
19 per cylinder
16,682 per drive
133 spares

Cylinders
878 per drive
7 spare

Head Positioning Time
7 ms minimum
30 ms average
55 ms maximum

Rotational Latency
8.3 ms. average
16.7 ms. maximum

Rotational Speed
3600 RPM @ 50 Hz & 60 Hz

Above information provided for reference purposes only. Consult your Sperry Univac representative for additional information, delivery dates and further specifications.

Specifications subject to change without prior notice.

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